

[c18]

18. The drivetrain of claim 17 wherein the first clutch is a multi-plate hydraulic clutch, engagable by increasing a hydraulic pressure to the first clutch and disengagable by reducing the hydraulic pressure to the first clutch; the second clutch is a multi-plate hydraulic clutch, engagable by increasing a hydraulic pressure to the second clutch and disengagable by reducing the hydraulic pressure to the second clutch; and the third clutch is a multi-plate hydraulic clutch, engagable by increasing a hydraulic pressure to the third clutch and disengagable by reducing the hydraulic pressure to the third clutch.

[c19]

19. The drivetrain of claim 14 wherein the first clutch is a multi-plate hydraulic clutch, engagable by increasing a hydraulic pressure to the first clutch and disengagable by reducing the hydraulic pressure to the first clutch; the second clutch is a multi-plate hydraulic clutch, engagable by increasing a hydraulic pressure to the second clutch and disengagable by reducing the hydraulic pressure to the second clutch; and the third clutch is a multi-plate hydraulic clutch, engagable by increasing a hydraulic pressure to the third clutch and disengagable by reducing the hydraulic pressure to the third clutch.

[c20]

20. The drivetrain of claim 14 wherein the transmission includes three planetary gear sets for selectively transmitting torque from the transmission input to the transmission output.

Abstract of Disclosure

[0026] A four wheel drive vehicle having an automatic transmission and a transfer case. The transfer case includes a planetary gear set and a pair of multi-plate, hydraulically controlled clutches coupled to the gear set for shifting between a high gear ratio and a low gear ratio. The transfer case also includes a four wheel drive, multi-plate, hydraulically controlled clutch coupled to the output of the gear set for switching between a two wheel drive mode and a four wheel drive mode. The hydraulic valving and controls for the hydraulic clutches in the transfer case can be contained in the automatic transmission, with fluid passages to communicate the fluid to the clutches. The planetary gear set in the transfer case can be employed with the planetary gear sets in the transmission to expand the range of output gear ratios from the transfer case.

Figures